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EXAMINER

CARTER, AARON W

ART UNIT	PAPER NUMBER
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2625

DATE MAILED: 09/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/990,947

Applicant(s)

DAW, SHAWN

Examiner

Aaron W. Carter

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-16, 18 and 19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-15, 18 and 19 is/are rejected.
- 7) ☒ Claim(s) 8 and 16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. This action is responsive to papers filed on June 24, 2005.

#### ***Response to Amendment***

2. In response to applicant's amendment received on June 24, 2005, all requested changes to the specification and claims have been entered. Claim 17 has been cancelled.

#### ***Response to Arguments***

3. Applicant's arguments, see Remarks, page 10, filed June 24, 2005, with respect to the rejection(s) of claim(s) 1, 3, 11 and 18 under 35 USC 102 and 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of USPN 5,754,676 to Komiya et al.

#### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 4-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 recites the limitation "the first markings" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

*Claim Rejections - 35 USC § 103*

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7, 9-15 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Engelmann (already of record) in view of USPN 5,754,676 to Komiya et al. ("Komiya").

As to claim 1, Engelmann discloses a user interface for a medical image comprising:

A memory for storing a plurality of data sets, each data set corresponding to an image of a location within a medical body of interest (column 3, lines 2-3);

A plurality of data points within each image, each data point corresponding to a measured parameter collected from the medical body of interest (column 6, lines 60-65, wherein markers correspond to data points);

A visual display having the image thereon, the image being composed of a visual representation of the respective data points for that image (Fig. 6);

A marker shape variation on the visual display of the image providing a first marker shape over those data points in the image that have been analyzed and determined to have a common characteristic (column 6, lines 60-65); and

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An image analysis indicator on the same visual display as the image, the image analysis indicator showing a color scale variation corresponding to the different characteristics of the data (column 8, lines 45-56, wherein the positive/negative indicator corresponds to the image analysis indicator).

Engelmann does not disclose expressly a color scale variation on the visual display of the image providing a first color scale of those data points in the image that have been analyzed and determined to have a common characteristic.

However, Komiya discloses a user interface for a medical image comprising:

A color scale variation on the visual display of the image providing a first color scale of those data points in the image that have been analyzed and determined to have a common characteristic (column 11, lines 39-50); and

Engelmann & Komiya are combinable because they are from the same art of image processing, specifically medical image processing wherein regions of interest in an image are visually distinguished from other areas of an image.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to provide a color scale variation of data points on the visual display as taught by Komiya.

The suggestion/motivation for doing so would have been to provide an image classification apparatus capable of properly classifying portions of input images and displaying these portions in a visually readily recognizable form (Komiya, column 1, lines 42-47).

Therefore, it would have been obvious to combine Engelmann with Komiya to obtain the invention as specified in claim 1.

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As to claim 2, the combination of Engelmann and Komiya discloses the user interface of claim 1, wherein each data point is composed of information from a plurality of data sets of different types (Engelmann, column 7, lines 49-57).

As to claim 3, the combination of Engelmann Komiya discloses a user interface for the visual display of an image from an object under study comprising:

A visual display terminal having thereon the image from the object under study (Engelmann, Fig. 3, element 31 and 32);

A color overlay on the image as presented on the visual display terminal indicating locations on the image that corresponds to tissues of interest (Komiya, column 11, lines 39-50);

An indicator on the visual display terminal at a location spaced from the image indicating that the image has the color overlay thereon (Engelmann, column 8, lines 45-56).

As to claim 4, the combination of Engelmann and Komiya discloses the user interface according to claim 3, wherein the first markings indicate similar regions of material within the object itself that have been identified by a computer analysis of the data collected about the object (Komiya, column 11, lines 39-50 and Engelmann, column 6, lines 55-65).

As to claim 5, the combination of Engelmann and Komiya discloses the user interface according to claim 4, wherein the object is a medical body and similar regions correspond to tissues that have similar characteristics (Engelmann, column 3, lines 2-3 and column 6, lines 55-65 and Komiya, column 9, lines 16-18 and column 11, lines 39-50).

As to claim 6, the combination of Engelmann and Komiya discloses the user interface according to claim 5, wherein the tissue is a type of cancer (Engelmann, column 1, lines 19-30).

As to claim 7, the combination of Engelmann and Komiya discloses the user interface according to claim 3, wherein the indicator is at a selected location on the visual display terminal to attract the attention of a user (Engelmann, column 8, lines 45-56).

As to claim 9, the combination of Engelmann and Komiya discloses the user interface according to claim 3, further including:

A plurality of images of the object under study displayed simultaneously on the visual display terminal (Engelmann, Fig. 16);

Indicators present on the visual display terminal associated with each of the plurality of images that have a tissue of interest thereon, indicating whether each respective image has a tissue of interest thereon (Engelmann, column 8, lines 45-56).

As to claim 10, the combination of Engelmann and Komiya discloses the user interface according to claim 9 further including:

A color overlay on those images within the plurality of images that contain tissues of interest on the image (Komiya, column 11, lines 39-50).

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As to claim 11, the combination of Engelmann and Komiya discloses a user interface for the visual display of an image from an object under study comprising:

a terminal having thereon a plurality of images of the object under study (Engelmann, column 3, lines 2-3);

Tissue of interest identified on at least one of the images under study (Engelmann, column 6, lines 55-65);

A tissue of interest indicator selectively displayable on the terminal to identify a location of the tissue of interest in the images containing the tissue of interest (Komiya, column 9, line 66 – column 10, line 1); and

A marking associated with each of the images indicating those images which contain a region of interest that is similar to the tissue of interest, the marking being spaced from the tissue of interest within each respective image wherein the markings has a first form when the tissue of interest indicator is selectively turned on and a second form when the tissue of interest indicator is selectively turned off (Engelmann, column 8, lines 45-56).

As to claim 12, the combination of Engelmann and Komiya discloses the user interface according to claim 11, wherein the marking associated with each image is spaced from the image (Engelmann, column 8, lines 47-49).

As to claim 13, the combination of Engelmann and Komiya discloses the user interface according to claim 11, wherein the marking associated with each image is at an identical location



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relative to the image it is associated with for each of the respective images (Engelmann, column 8, lines 47-49).

As to claim 15, the combination Engelmann and Komiya discloses the user interface according to claim 11, further including:

A tissue of interest marking on the image indicating the location with the image itself that contains the tissue of interest (Komiya, column 11, lines 39-50).

As to claim 18, the combination of Engelmann and Komiya discloses a method of indicating images within a set of images that contain a region of interest comprising:

Locating in a first image a user-selected type of tissue within a region of interest (Komiya, column 9, line 66 – column 10, line 1);

Analyzing the images of the selected tissue type to thereby determine the characteristics of the selected tissue type (Komiya, column 10, lines 1-4);

Performing a computer analysis on the image to locate within the image any tissue having characteristics similar to the characteristics of the selected tissue within the region of interest (Komiya, Fig. 22);

Performing a computer analysis of a plurality of images to locate within each of the images any tissue having characteristics similar to the characteristics of the selected tissue (Komiya, column 14, lines 45-49, wherein a plurality of images maybe input);

Placing an analysis status indicator associated with each image that contains tissue of interest (Engelmann, column 8, lines 45-56).

7. As to claim 19, the combination of Engelmann and Komiya discloses the user interface according to claim 18, wherein each of the plurality of images is within window and the analysis status indicator is at the upper right hand corner of a window that includes the image (column 8, lines 47-49).

However neither Engelmann nor Komiya disclose expressly wherein the indicator is at the upper left hand corner of a window.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to place the marking in the upper left hand corner of the window. Applicant has not disclosed that placing the marking in the upper left hand corner of the window provides an advantage, is used for a particular purpose or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with the marking in the upper right hand corner of the window because they both indicate the presence of a tissue of interest at the top of the image window.

Therefore, it would have been obvious to one of ordinary skill in this art to modify Engelmann and Komiya to obtain the invention as specified in claim 19.

***Allowable Subject Matter***

8. Claims 8 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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*Conclusion*


9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron W. Carter whose telephone number is (571) 272-7445. The examiner can normally be reached on 8am - 4:30 am (Mon. - Fri.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (571) 272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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